BAA Call N0001424SBC10
Special Programs Announcement for Office of Naval Research Opportunity: Enabling Technologies for Electronic Warfare and Surveillance

I. INTRODUCTION

This announcement describes the technology areas, entitled "Electronic Warfare" and "RF Surveillance" under N0001424SB001, Long Range Broad Agency Announcement for Navy and Marine Corps Science and Technology, which can be found at https://www.nre.navy.mil/work-with-us/funding-opportunities/announcements. The submission of proposals, their evaluation and the placement of research grants and contracts will be carried out as described in the above Long Range Broad Agency Announcement.

The purpose of this announcement is to focus attention of the scientific community on (1) the areas of interest, including advancements in Electronic Warfare (EW), Surveillance, and other associated enabling technologies, (2) encourage dialogue amongst those interested in this area, and (3) the planned timetable for the submission of white papers and full proposals.

II. TOPIC DESCRIPTIONS

To fully enable spectrum superiority, naval forces (including the Marine Corps and Navy) must be able to control the Electromagnetic Spectrum (EMS) by exploiting, deceiving, or denying enemy use of the spectrum while ensuring persistent naval ISR capabilities. The advance of adversary intelligence, surveillance, and reconnaissance (ISR) and EW capabilities across the full EMS (DC to daylight), and the proliferation of inexpensive, efficient processors, and transceivers has eroded our advantages, created a contested and congested operational environment, and degraded our naval ISR capabilities. This EW and Surveillance D&I BAA Call seeks innovative solutions to overcome these technical challenges. White papers and subsequent proposals should address technology developments in one or more of the following Research Opportunity Technical Areas 1-7.

Technical Area 1. Signal processing algorithms for radars (RF Surveillance Focus)

Background: The advancements of microelectronics and computers have enabled high speed computations in small form factors that require less power and are more cost effective. Real time signal processing and image processing for radar systems is still costly and challenging, but as Software Defined Radios (SDRs) and edge processing are becoming more mainstream, future modern low Cost-Size Weight and Power (C-SWaP) radar systems that can be deployed on attritable platforms, such as UAS(s), with higher efficiency are shaping the future.

Objective: This technical area is to achieve real-time processing by effectively diminishing the latencies in hardware and software by efficient algorithms and effective hardware

implementation. The Navy is seeking low SWAP-C signal processing algorithms with high efficiency and low-latency, including Synthetic Aperture Radar (SAR) with or without other modes, such as maritime/ground moving target indication (MMTI/GMTI), interferometric SAR (InSAR), polarimetric SAR, or tomographic SAR. This technical area places emphasis on acquiring (near) real time ISR-T from traditional airborne platforms, or attritable platforms such as UAS(s) by taking advantage of edge computing for wide area search, long range target identification, and multi-target tracking application mainly in congested and contested maritime domain.

Proposed concepts should address development of low C-SWAP processing algorithms in three or more of the following areas, primarily targeting large Group 2 to small Group 3 UAS platforms:

- Adaptive and scalable algorithms that result in large time-savings from current state-of-the-art approaches in hardware/software architecture,
- Real-time signal processing algorithms for monostatic, multibeam, bi-static, or MIMO modes for standard SAR, InSAR, tomographic SAR, or GMTI/MMTI functions for on-board processing,
- Real-time signal processing or post-processing algorithms with high degree of electronic protection,
- Efficient resource allocation and management for aforementioned SAR modes,
- Multi-mode algorithms with adjustable resolution level (low/ medium/ high) to cover wide area search,
- Breakthrough signal processing techniques for near real time auto-focusing algorithms,
- Methods for managing resources and orchestrating distributed, multi-node airborne SAR platforms to enable multi-node modes mentioned above, to autonomously cover larger areas and follow up with gross/fine target identification, while disseminating data via comm-constrained channels to support data fusion with other ISR processes.

Some ITAR/CUI level data sets may be provided to the selected performers who can receive and process data at the appropriate classification level in their facilities to test their algorithms.

Technical Area 2: Technologies for Innovative EW Techniques against Modern Emitters (EW Focus)

Background: The rise of software defined radios and advancements in micro-electronics have resulted in a proliferation of wideband multi-functional radio frequency (RF) systems that are agile in time, frequency, and waveform. These cheap and easily reprogrammable RF systems have enabled advanced radar and counter-countermeasure techniques that were not easily achievable before. There is a future need for advanced concepts to overcome the challenges faced with these new complex RF systems.

Objective: This technical area focuses on a capabilities-based approach to solving the key problems for enabling a distributed network of EW systems to adaptively respond to modern complex emitter threats. Solutions are sought in the following areas:

1. **Dynamic and Scalable Data Representation and Compression of Complex Waveforms for Spectrum Knowledge Sharing:** Upon digitization of RF signals, most ES systems quickly compress the full I/Q data into some sort of pulse or waveform description vector. These descriptions are fixed, not relevant for all situations, and don't encapsulate any uncertainty in the measured values. This large amount of "compression" often causes track tearing through pulse descriptor word errors caused by measurement noise, interference, or unknown signals. Furthermore, current emitter characterization doesn't scale well and doesn't adequately model modern complex pulse behaviors. Ideally, one would be able to transmit full I/Q data and conduct offline processing across nodes to fully exploit all available information, but this is not possible on edge nodes with limited bandwidth connectivity and limited edge processing capability. This research call is looking for a scalable waveform description language that can extract relevant waveform parameters for a given mission, express uncertainty in the measured parameters (e.g., due to noise, collision, etc.), that is dynamic to accommodate potential future features of interest, and provides a common language for describing RF waveforms. "Lossless" or scalable compression schemes for I/Q data would also be of interest. Proposals in this area should demonstrate how their approach could enhance distributed EW applications, significantly increase current ES system functionality against complex emitters, and enable adaptive EA responses.

2. **Advanced Distributed EW**: This research topic is looking for novel signal processing techniques to detect, classify and identify complex, agile emitters by taking advantage of a distributed network of EW systems that would provide spatial, frequency, and temporal diversity. Items of potential interest (but not an exhaustive list) are:

    a. Detection of LPI/LPD signals from a distributed network of sensors,

    b. Precise geolocation of agile emitters,

    c. Emitter detection, classification, and prediction over time,

    d. Deinterleaving of signals in a complex EM environment,

    e. Resolution of unknown signals/tracks across distributed nodes (knowledge sharing),

    f. Autonomous methods that jointly optimize distributed system resources (e.g. transceiver tuning, aperture pointing direction, platform position and trajectory, limited signal processing, constrained communications, etc.) to improve objectives above.

3. **Dynamic EA Technique Formation**: Software reconfigurability and potential war reserve modes make library-based EA techniques potentially less and less effective with the advent of modern RF systems. This topic is looking for algorithms or methods to dynamically generate EA techniques against an agile RF threat system. This topic seeks methods that automatically classify threat system waveforms, determine their purpose, and generate a technique to successfully defeat the threat's ability to detect, acquire or track the targeted asset. Items of potential interest are (but not limited to):
    - **a.** Methods to dynamically characterize a broad range of modern radar behaviors (including behaviors never previously seen),
    - **b.** An ontology to dynamically describe complex radar modes or radar intent,
    - **c.** Methods for measuring countermeasure effectiveness in real-time,
    - **d.** Methods for on-the-fly FPGA/ASIC reconfigurability to dynamically change EA responses.

Successful awards in each part of this tech area will be asked to participate in bi-annual workshops with the other awardees. The intent would be to share knowledge about requirements in each area to provide a more informed picture for each of the participants. For instance, the complex waveform description language's ability to characterize certain waveform parameters could significantly influence what capabilities could be developed under the signal processing task. Similarly, the amount of information a distributed ES system can extract about a given threat signal, could influence the effectiveness (and timeliness) of a dynamic EA technique. Prospective performers can apply against any aspect of this topic area, but the Government requests that the sub-topics be separable within the proposed effort. Successful proposals will adequately describe how their proposed approach significantly improves capability against the state-of-the-art. Proposals should also define measurable metrics of success that tie directly to increased Naval EW capability over the current state-of-the-art.

Technical Area 3. Generative Artificial Intelligence to Create Complex M&S Scenarios at Scale (EW Focus)

Background: Developing modelling and simulation scenarios at the mission level requires the orchestration of multiple platforms to make realistic movements and dynamically taking actions based on the current scenario state. Creating such a scenario is very time consuming. Often simulation scenarios are simplified and only the movements and actions of certain key platforms are thoroughly designed. This results in a scenario that is lower in complexity but is also not necessarily representative of scenarios encountered in a real environment.

Because of the complexity of creating the M&S scenario, it often only contains very limited levels of dynamism and randomness. Because machine learning algorithms require large amounts of training data, it is desired to augment data from the real world with data from M&S environments in a Monte Carlo fashion. However, this is challenging because simply adding random movements or actions may result in unrealistic behavior of platforms in the environment.

Objective: Proposals are desired to develop algorithms to learn a model of the spatial-temporal behavior of platforms, including both platform movement and timing of events, that can be executed in a generative model. The events of interest are transmissions in the electromagnetic spectrum. For example, the transmission of communication messages, such as data or control packets and mode changes in a radar.

The learned model should be conditioned on external factors, such as time of day, season, location, weather (e.g. sea state), mission, surrounding ship traffic, etc. At scenario runtime, a user is expected to provide these external parameters, where appropriate, in order to set the context of the generative model used to inject data into the scenario. The proposals should describe the external factors being considered.

It is desired that data from the real world is used to demonstrate the effectiveness of the models, rather than synthetically generated data. Proposals should describe which data sets will be used for training the models. Classified data sets may be provided to the selected performers, who can receive and process data at the appropriate classification level in their facilities, to augment performer generated data sets.

As data sets are a critical issue, proposals that only propose methods for obtaining and pruning data to be fed to learning algorithms in various contexts will also be considered.

Developing a meaningful quantitative and automatic way to measure the performance of generative models is a challenging task. It is desired that the performance metrics capture the likelihood that generated scenarios could occur in the real-world. For example, the generative model should not generate scenarios that are physically implausible, such as high-G maneuvers for manned aircraft or sharp turns for large ships. Proposals should address metrics that will be investigated.

Technical Area 4. Methods for Repairing and Restoring Signals After Frequency-Selective Limiters (EW Focus)

Background: Electronic Support (ES) receivers play an important role in providing situational awareness. However, these systems are subject to high-power intentional or self-inflicted interference. Co-site interference complicates reception of small amplitude signals, especially on the emitting platform. Current interference remedies, such as automatic gain control, may broadly reduce receiver sensitivity, or may distort other received signals that are in-band with a high-power interferer. Distortion products can mask signals of interest or generate spurious signals that look like potential contacts.

There are emerging solutions, referred to as frequency-selective limiters (FSLs), that impact only the spectrum immediately around the problematic signals. These FSLs use a nonlinear effect to form a shaped frequency notch centered on each interfering signal exceeding a threshold power. While this prevents excessive RF energy of individual high-power signals from entering sensitive portions of the receiver, such FSLs also attenuate and distort small signals within the notch's width in frequency and overlapping in time. The effective shape of the band notch formed by FSLs is dependent on the non-linearity, on the interfering signal bandwidth, and on its

instantaneous power. This power may be due to intermodulation among all high-power signals instantaneously present as well as sources such as high peak-to-average power or pulsed waveforms. This creates challenges for detecting and accurately characterizing low-power signals of interest (SOIs) close to the interferers.

Objective: This technical area seeks a receiver system module that can adaptively correct and repair signals distorted by a FSL of the described class. Proposed efforts will provide methods to:

- Identify interfering signal source(s) triggering the FSL response.
- Provide an un-clipped, digital representation of each de-interleaved, above-threshold signal present before the FSL and analysis of where intermods, whether above or below the threshold, are likely to have occurred. Note that amplitude correction will likely be required.
- Repair and correct first-order group delay and amplitude distortions of all below-threshold signals within range of the FSL effect.
- Implement the above on COTS processors (CPU, FPGA, GPU) aiming for close to real-time, low-latency execution.

Efforts may also include work, especially of an integration sort, on the following:

- Detection and identification of signals declared to be of interest within the bands impacted by the interfering signals. These are the prime candidates for processing by the planned equalization module.
- Post-processing and queuing of distortion corrections based on prioritization across limited compute resources, relative importance of interfering source, relative importance of potential SOIs in band, potential SOIs identified by pre-detection process, or other dimensions.
- Testing of whether machine learning algorithms trained to recognize the interfering waveforms continue to respond to interference residue after the FSL and digitization.

Additional guidance and specifications:

1. This effort is not focusing on the design of an FSL. Proposed efforts should emphasize use of C(G)OTS FSLs, but may spend minimal parts and labor toward modifications of a FSL required for integration with the requested module.
2. Efforts should assume that FSL can form notches up to 40 dB deep with a 1-dB bandwidth up to 250 MHz and a 3 dB bandwidth of 120 MHz.
3. The module shall correct for 4 (threshold) to 8 (objective) concurrent signals exceeding the FSL activation threshold somewhere within the system instantaneous bandwidth.
4. The system instantaneous bandwidth shall exceed 2 GHz (threshold), preferably exceeding 8 GHz (objective).
5. The demonstrated operating band may be located anywhere within 0.1-30 GHz.

6. Modules that are compatible with a modular architecture, such as SOSA or CMOSS, are preferred.
7. Modules returning equalized, small waveforms that are close to an interfering waveform in less than 1 millisecond are strongly preferred. Ultimate objective would be less than 1 microsecond.

Proposals should make it clear whether their team is organized as a single proposal spanning all the requirements, is for a single sub-part, or is a set of linked proposals by distinct organizations. Continued government ownership of the resultant system architecture and use of a modular architecture is strongly preferred.

Technical Area 5. Innovative Counter-Electro-Optic/Infrared (EO/IR) Concepts (EW Focus)

The objective of this area is to explore truly innovative EW concepts which can counter emerging EO/IR imaging sensor threats. The traditional approach to defeating such sensors is to employ high optical/infrared power countermeasures that saturate or damage the imaging sensor. Proposals are being sought for non-traditional solutions to the problem of deceiving and/or denying imaging sensors without resorting to such "brute force" techniques. Proposals responding to this solicitation should focus on innovative and revolutionary solutions involving emerging, cutting-edge technologies.

Technical Area 6: Dynamic, Composable Architecture for Rapid Insertion of Emerging C-ISR and/or EW Technologies

Background: Technology development, and our adversaries' adoption of new technology, has outpaced our traditional acquisition and system development approaches. To compete with new and emerging threats, future EW and C-ISR systems must be able to rapidly adopt, integrate and utilize emerging technologies from the traditional defense industrial base, small businesses, non-traditionals, and even Allies.

Objective: This technical area is focused on providing a flexible architecture to allow for new EW and C-ISR capabilities to be rapidly integrated into the Fleet, while also allowing for faster and more effective real-time execution of capabilities. Specific asks are in the following areas:

1. Intelligent, Extensible EW/C-ISR Data Manager and Application Programming Interface (API): This topic seeks to develop an intelligent data manager software and efficient APIs to quickly and easily network and control heterogeneous C-ISR and EW assets both on a platform and Force-wide. The proposed approach should be scalable across platform sizes from larger ones that can support SOSA-based hardware implementations to smaller low SWaP implementations where that may not be possible. Thought should also be given to how the framework could interface with legacy EW and C-ISR systems utilizing modern practices such as Platform as a Service (PaaS) implementation of composable, single function containers or emerging

approaches such as WebAssembly for EW applications. Proposed efforts should also consider and address:

a. Data queue management for disconnected, denied, intermittent and/or limited bandwidth (DDIL) environments – Policies to decide what data to push over the air across D-DIL links utilizing concepts such as Age of Information to maintain freshness. Data reductions performed on raw input must be distilled to support tactical link transmission while retaining mission-specific needs.
b. Methods to handle data from heterogeneous systems - Push and retrieve command and control information, or data, across external peer systems and handle data exchange with external planning tools or legacy systems. This could also include semantic modeling to define the meaning of data within the context of its interrelationships with other data.

2. Planning tools for platform and force-level EW/C-ISR effects coordination: The development of a course of action generator and recommender for C-ISR and EW applications will be vital to the fight. This capability will need to augment Commander's mission plans, potentially from multiple planners, with on-platform health and status, sensor, and weather information. Specific capabilities beyond this include:
    a. Multiple threat engagement sequencing – The ability to task and queue sequencing of multiple threats and alternatives based on understanding or assumptions of Red order of battle.
    b. Probability of success – Utilizing model understanding of Red order of battle and local measurements, provide a likelihood of success.
    c. Limited teaming – The ability to coordinate and create intelligent guesses on partner actions in denied environments based on previous communications.
3. Real-time effector execution and low-latency autonomous coordination: Multiple systems on Naval platforms must coordinate and adapt at machine-speed to produce maximal effect. This must extend to nearby offboard systems that are offering support (e.g. UxS) for mission execution. Specific capabilities beyond this include:
    a. Understanding the feedback loop for effector status and effectiveness – This ability will be fed into upstream task managers for C-ISR and EW effects and reasoning engines.
    b. Dynamic targeting policies (e.g. pre-defined, bundles) – This ability will allow for real-world information to potentially adjust targets or target sequences to maximize effectiveness.
    c. Interleaving of multiple waveforms from constrained RF frontends – This ability will simultaneously support multiple mission needs.
    d. Decentralized effects optimization – This ability will allow for systems across multiple platforms to employ team-oriented algorithms for the best group employment of EW and C-ISR effectors.

Proposals should make it clear which one of the numbered objectives above it will be addressing. Awardees in Technical Area 6 will need to be able to handle classified information.

Technical Area 7: Technologies for Truly Innovative EW/ISR Applications

Background: This Call has targeted specific challenges that have been identified in realizing a future vision of Electronic Warfare and ISR where our forces can operate freely within a complex, congested, and rapidly changing EMS. While the focus of this Call is on the preceding six technical areas, ONR recognizes that discovery and innovation can arise in unexpected ways. Technical Area 7 allows a pathway to consider those concepts that do not fit neatly into Technical Areas 1-6 but offer truly transcendent advances in capability that push forward the vision for the future of EW and ISR.

Objective: Technical Area 7 is open to explore additional innovative EW and ISR concepts that would fundamentally transform the Navy's current capabilities (attack, support, protection).

To allow for diverse possibilities but limit responses to truly revolutionary ideas, TA7 proposed efforts should quantitatively describe how the effort would realize a figure of merit (FoM) increase of 1000X over state of the art. To arrive at this FoM, proposers should quantify the benefits of their technology over existing technology. Individual FoMs of a concept may be combined or multiplied. For example, a conceptual multichannel, distributed receiver system-of-systems that provides 10 dB more dynamic range, 10x more beam-bandwidth, and 10x more instantaneous signal bandwidth would be responsive to this technical area.

Proposed efforts that do not quantify this 1000X benefit of their approach will be considered non-responsive.

III. WORKSHOPS, INDUSTRY DAYS, WEBINARS

ONR will not hold any workshops, industry days, or webinars related to this BAA call.

IV. WHITE PAPER SUBMISSION

Although not required, white papers are strongly encouraged for all offerors seeking funding. Each white paper will be evaluated by the Government to determine whether the proposed technology advancement appears to be of "particular value" to the Department of the Navy. Initial Government evaluations and feedback will be issued via email notification from the Technical Point of Contact. Whitepapers that are deemed to be of "particular value" to the government will be invited to provide an oral presentation as described in Section V below.

White papers should ***not exceed*** 5 single-sided pages, exclusive of cover page, references, and resume of principal investigator, and should be in 12-point Calibri or Aptos font with margins not less than one inch. White papers shall be in Adobe PDF format (preferred) or in Microsoft Word format.

White papers should respond to a specific topic area within the special notice. Responses should select the single most appropriate topic area and indicate that within the white paper. The ***no more than*** 5-page body of white paper should include the principal investigator's plan to

address a specific problem set(s) associated with a topic(s) described in Section II, Topic Description by providing the following information:

- **Technical Concept** – A description of the technology innovation and technical risk areas.
- **Future Naval Relevance (where applicable)** – A description of potential Naval relevance and contributions of the effort to the agency's specific mission.
- **Operational Naval Concept (where applicable)** – A description of the project objectives, the concept of operation for the new capabilities to be delivered, and the expected operational performance improvements.
- **Operational Utility Assessment Plan (where applicable)** – A plan for demonstrating and evaluating the operational effectiveness of the offeror's proposed products or processes in field experiments and/or tests in a simulated environment.
- **Rough Order of Magnitude (ROM)** cost estimate.

A resume of the principal investigator, not to exceed one (1) page, should also be included after the body of the white paper.

To ensure full, timely consideration for funding, white papers should be submitted **no later than (NLT) 26 SEP 2024 1600 EST**. White papers received after that date will be considered as time and availability of funding permit.

The planned date for completing the review of white papers is **14 OCT 2024**.

V. ORAL PRESENTATIONS

ONR requests that Project Managers (PMs)/Principal Investigators (PIs) provide an expanded oral presentation from those Offerors whose proposed technologies have been identified as being of "particular value" to ONR. The purpose of the oral presentation is to provide greater detail than can be contained in the White Paper and to permit the evaluation panel to ask questions to better understand aspects of the proposed effort. However, any such request does not assure a subsequent award. Any Offeror whose White Paper technology was not identified as being of "particular value" to ONR will not be invited to make an oral presentation. The requested oral presentations will occur on, or around, **4-8 NOV 2024**. The time, location, and briefing format of the oral presentations, if requested, will be provided at a later date via email notification.

ONR evaluations of the oral presentations will be issued via email notification on or about **15 NOV 2024**.

VI. FULL PROPOSAL SUBMISSION AND AWARD INFORMATION

Detailed full proposal (Technical and Cost volumes) will be subsequently encouraged from those offerors whose proposed technologies have been identified through the above referenced email as being of "particular value" to the government. However, any such encouragement does not assure a subsequent award. Full proposals may also be submitted by any offeror whose white

paper was not identified as being of particular value to the government or any offeror who did not submit a white paper.

For proposed efforts that are considered of particular value to the Navy, but either exceed available budgets or contain certain tasks or applications that are not desired by the Navy, ONR may suggest a full proposal with reduced effort to fit within expected available budgets or an effort that refocuses the tasks or application of the technology to maximize the benefit of the Navy.

Full proposals should be submitted under N0001425SB001 by **20 DEC 2024,** submissions prior to 01 Oct 2024 may be submitted against N0001424SB001**.** Full Proposals received after that date will be considered as time and availability of funding permit.

ONR anticipates that both grants and contracts will be issued for this effort.

Full proposals for contracts should be submitted in accordance with the BAA instructions at Appendix 2.D, Requirements Applicable to Contracts and Other Transaction Agreements Only.

Technical Proposal/Content shall be single spaced and not exceed 15 pages. The cover page, resumes, bibliographies, and table of contents are excluded from the page count. For contract proposal submission, all submissions should be submitted electronically per section VIII unless submitting a classified proposal. Classified submissions can be mailed.

Full proposals for grants should be submitted in accordance with the instructions at BAA Appendix I.D, Application and Submission Information – Full Grant Proposals. All full proposals for grants must be submitted through www.grants.gov. The following information must be completed as follows in the SF 424 to ensure that the application is directed to the correct individual for review: Block 4a, Federal Identifier: Enter N00014; Block 4b, Agency Routing Number, Enter the three (3) digit Program Office Code 312) and the Program Officer's name, last name first, in brackets (Green). All attachments to the application should also include this identifier to ensure the proposal and its attachments are received by the appropriate Program Office.

ONR plans to allocate approximately $10-15M dollars per year in total for all the efforts related to the Technical Areas in this Call. The period of performance for projects will be one to three (1-3) years. Proposed efforts should have clear milestones that can be reviewed and evaluated on an annual basis. It is anticipated that multiple awards will be made in Technical Areas 1-7 based on the quality of the proposed efforts. White papers are strongly encouraged from all offerors seeking funding.

Although ONR expects to execute the program plan described above, ONR reserves the right to make changes according to program priorities and funding availability.

VII. SIGNIFICANT DATES AND TIMES

Event	Date	Time
Recommended White Paper Submission Date	NLT 26 SEP 2024	1600 ED
Notification of White Paper Evaluation	NLT 14 OCT 2024	
Anticipated Oral Presentation Dates	NLT 4-8 NOV 2024	
Notification of Oral Presentation Evaluation	NLT 15 NOV 2024	
Recommended Full Proposal Submission	NLT 20 DEC 2024	1600 ES
Notification of Selection Full Proposals	NLT 2 JAN 2025	
Awards	O/A APR 2025	

VIII. SMALL BUSINESS SUBCONTRACTING

As indicated in ONR Broad Agency Announcements large businesses and non-profit organizations must submit a subcontracting plan along with their research proposal. While large businesses and non-profits are responsible for making these subcontracting arrangements, ONR will help facilitate prime contractor/small business contracting connections by posting to the ONR external website contact information of small businesses that have indicated their subcontracting interests and technological niche for prime contractor consideration for this program. This is not an endorsement, but an effort by ONR to help bring these parties together to provide superior solutions.

If you are a small business, and your company is interested in subcontracting activities with large businesses and/or non-profits considering your technology for this program, please provide the following information by email, to the ONR Small Business Director at ellen.simonoff.civ@us.navy.mil with the subject line, “BC N0001424SBC10”. Provide this information:

1) Company Name and Website
2) Individual (POC) name and POC email address
3) Business Size and socio-economic category
4) Brief Technology Description (no more than 3 sentences)
5) Technology Key Words (no more than 10 words)

Note: Do not include ANY proprietary information. This information will be posted on the ONR website under this BAA call and will be available to the public.

IX. POINTS OF CONTACT

In addition to the points of contact listed in N0001424SB001 the specific points of contact for this announcement are listed below:

Technical Points of Contact:

Dr. Kevin Leonard
Director, Electronic Sensors and Networks Division
ONR.NCR.312.list.ISR-Admin@us.navy.mil

Dr. Trevor Snow
RF Surveillance Program Officer
ONR.NCR.312.list.ISR-Admin@us.navy.mil

Business Point of Contact:

Mr. Stephen Hughes
Contracting Officer
stephen.t.hughes.civ@us.navy.mil

IX. ADDRESS FOR THE SUBMISSION OF WHITE PAPERS AND FULL PROPOSALS FOR CONTRACTS

White Papers/Full Proposal:

Unclassified white papers and full proposals should be submitted electronically within FEDCONNECT with copy to ONR.NCR.312.list.ISR-Admin@us.navy.mil by 16:00 ED on 26 SEP 2024 (white paper) and 20 DEC 2024 (full proposals) by 16:00 ES. Additionally, please send a notification after submitting a whitepaper via the Topic Response Form (https://forms.osi.apps.mil/r/rwuA7jjrJ9).

Files exceeding 10MB in size should not be emailed, but instead transmitted via a file transfer service, for example DoD SAFE, https://safe.apps.mil. If you will be using DoD SAFE, please request a Drop-Off link from the Technical POCs via the Topic Response Form (https://forms.osi.apps.mil/r/rwuA7jjrJ9) at least 7 days prior to the submission deadline.

Classified White Papers/ Full Proposals:

Classified white papers and proposals up to the general service (GENSER) Secret level should be mailed via traceable means, with the outer envelope addressed to the Office of Naval Research, Attn: Document Control Unit, ONR Code 43, 875 N. Randolph St., Arlington, VA 22203-1995. The inside envelope should indicate the classification level and be addressed as: Office of Naval Research, Attn: Dr. Kevin Leonard, ONR Code 312, 875 N. Randolph St., Arlington, VA 22203-

1995. If you will be mailing a classified white paper or proposal, please send a notification to the technical POC's via the Topic Response Form (https://forms.osi.apps.mil/r/rwuA7jjrJ9).

X. SUBMISSION OF QUESTIONS

Any questions regarding this announcement must be provided to the Technical Points of Contact and/or the Business Point of Contact listed above. All questions shall be submitted via the Topic Response Form (https://forms.osi.apps.mil/r/rwuA7jjrJ9).

Answers to questions submitted in response to this BAA Call will be addressed in the form of an Amendment and will be posted to the following web pages:

- SAM.GOV Webpage – Contract Opportunities (https://sam.gov/content/home)
- FEDCONNECT.NET Webpage – (https://www.fedconnect.net/FedConnect/Default.htm)
- GRANT.GOV Webpage – https://www.grants.gov/
- ONR BAAs, FOAs and Special Program Announcement WebPage https://www.nre.navy.mil/work-with-us/funding-opportunities/announcements

Questions regarding **white papers or full proposals** should be submitted NLT two weeks before the dates as ascribed in Section VIII. Questions after this date may not be answered.